

IN THE CLAIMS

We claim:

1. A process for video recording a field illuminated by a lamp, comprising the steps of:

directing at least one light beam for illuminating the field from at least one light-exit area of a lamp housing toward a predetermined housing axis; and
automatically adjusting the optical axis of a video camera, which is mounted on a bracket at a specified distance from the light exit with freedom to pivot the camera about a tilt axis, by a positioning element until the camera's optical axis intersects the at least one light beam in the area of the illuminated field.

2. A process according to claim 1, including driving the positioning element with signals from a control unit.

3. A process according to claim 1, including adjusting the video camera relative to the predetermined housing axis until the optical axis of the camera at least approximately intersects the predetermined housing axis.

4. A process according to claim 1, including determining a required adjustment distance by first panning the camera across an entire adjustment range and then pivoting the camera to a position of maximum image brightness.

5. A process according to claim 1, including pivoting the video camera in a stepwise manner.

6. A process according to claim 2, including determining the distance to the illuminated field by a fine adjustment of camera focus aided by an autofocus function of the video camera, and sending signals from the control unit to the positioning element of the camera to compensate for parallax between the optical axis of the camera and the light beam.

7. A process according to Claim 6, including using a zoom lens of the camera to enlarge the illuminated field to a maximum extent before activating the autofocus function of the video camera.

8. A process according to claim 1, including iteratively correcting the alignment of the optical axis of the camera.

9. A lamp, comprising:

at least one lamp housing;

a light source arranged in the housing so that at least one light beam emerges in a direction of a predetermined axis to illuminate a field; and

a video camera arranged in the housing at a set distance away from one of an exit point of the light beam and the predetermined axis, the video camera having an optical axis and a positioning element operative to automatically shift the optical axis of the camera with respect to the at least one light beam or with respect to the predetermined axis of the lamp housing until the optical axis of the camera intersects the illuminated field.

10. A lamp according to claim 9, and further comprising a control unit operative to drive the positioning element of the video camera, the control unit being responsive to driving signals which depend on orientation of the video camera with respect to the predetermined axis of the lamp housing or of the light beam.

11. A lamp according to claim 10, and further comprising an angle sensor operatively arranged to generate the driving signals, the sensor being operative to detect the orientation of the optical axis in space and the orientation of the lamp housing, of the predetermined axis, or of the light beam.

12. A lamp according to claim 10, and further comprising a photosensor provided to generate a driving signal for the control unit.